

**A TWO-STEP PROBLEM OF HEDGING A EUROPEAN CALL OPTION UNDER
A RANDOM DURATION OF TRANSACTIONS****A. I. Kibzun, V. R. Sobol'**

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A two-step problem of minimizing average costs of hedging a European call option is studied. The hedging is implemented by buying and selling underlying assets. It is assumed that the durations of asset purchase and sale operations at the market are random and exponentially distributed. The problem is solved by the dynamic programming method. An expression for the mathematical expectation of the function of future losses at the final step is obtained. A numerical algorithm for finding an optimal strategy at the first step is proposed. An example of using the algorithm is given.

Keywords: European option, option hedging, dynamic programming.

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